

CLAIMS

1. A tubular implant for obstructing blood flow through a blood vessel, the implant
5 comprising:
an outer surface having a geometry of a tube, at least a portion of which is adapted for
contacting a blood vessel; and
an inner surface defining a passage through which blood flows, wherein the distance
between the inner surface and the outer surface is non-uniform along an axis of the tube.
- 10 2. An implant according to claim 1, wherein at least a portion of the inner and outer walls
are continuous.
3. An implant according to claim 1, wherein at least one portion of the distance is hollow.
- 15 4. An implant according to claim 3, wherein the at least one hollow portion is adapted to
be inflated.
5. An implant according to claim 3, wherein at least one of the outer and inner surfaces is
20 parallel to the longitudinal axis of the flow passage.
6. An implant according to claim 3, wherein at least one of the outer and inner surfaces is
non-parallel to the longitudinal axis of the flow passage.
- 25 7. An implant for obstructing blood flow in a blood vessel, the implant comprising:
a tubular wall defining a flow passage adapted for encircling a flow of blood through a
vessel; and
one or more positionally adjustable flaps projecting from the wall into the blood flow.
- 30 8. An implant according to claim 7, wherein the one or more flaps comprise two or more
flaps.
9. An implant for obstructing blood flow in a blood vessel, the implant comprising:

a tubular wall defining a flow passage adapted for encircling a flow of blood through a vessel;

two or more positionally adjustable flaps each connected at one end to the tubular wall;
and

5 one or more guide elements connecting the two or more flaps, operative to maintain the two or more flaps in a position in which they partially block the flow passage.

10. The implant according to claim 9 wherein the one or more guide elements deform or break under pressure.

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11. The implant according to claim 9, wherein the one or more guide elements comprise two or more guide elements.

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12. The implant according to claim 11 wherein the two or more guide elements have different pressure thresholds at which they deform or break.

13. An implant for obstructing blood flow in a blood vessel, the implant comprising:
a tubular wall defining a flow passage adapted for encircling a flow of blood through a vessel; and

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at least one non-overlapping flap projecting from the wall into the blood flow.

14. An implant according to claim 13, wherein the at least one flap is substantially planar with a surface of the tubular wall.

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15. An implant according to claim 13, wherein the at least one flap is substantially non-planar with a surface of the tubular wall.

16. An implant according to claim 13, wherein the at least one flap is positionally adjustable.

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17. An implant according to claim 13, wherein the at least one flap comprises at least two non-overlapping flaps.

18. An implant according to claim 13, comprising a kit that additionally includes a flap angle adjusting tool, the tool comprising a shaft having one or more wing projections adapted to press against one or more flow obstructing flaps.

5 19. The implant according to claim 18, wherein the one or more wings of the tool are activated in one or both of the following ways:

mechanically; and
inflatably.

10 20. An implant for obstructing blood flow in a blood vessel, the implant comprising:
a tubular wall defining a flow passage adapted for encircling a flow of blood through a vessel and least one wire of varying effective width adapted to at least partially obstruct blood flow.

15 21. An implant according to claim 20, wherein the at least one wire curves in a plane of the width of the wire.

22. An implant according to claim 20, wherein the at least one wire is connected to an object.

20 23. An implant according to claim 20, wherein the at least one wire comprises at least two wires.

24. An implant according to claim 23, wherein the at least two wires are interconnected.

25 25. An implant according to claim 24, wherein the interconnection comprises at least one curved member.

30 26. An implant according to any of the preceeding claims, wherein at least a portion of the implant is adapted to change configuration upon absorption of fluid.

27. An implant according to any of claims 1-25, wherein at least a portion of the implant comprises resilient materials.

28. An implant according to any of claims 1-25, wherein at least a portion of the implant comprises shape memory materials.

5 29. An implant according to any of claims 1-25, wherein at least a portion of the implant is adapted to be inflated.

30. A method of modifying an implant geometry, of a tubular implant with at least one intra-luminal flap, comprising:

10 contacting at least one intra-lumen flap of an implanted vascular implant with an effector element; and

 bending said flap by applying force via said contact.

15 31. A method according to claim 30, wherein contacting comprises pulling said element towards said flap.

32. A method according to claim 30, wherein contacting comprises pushing said element towards said flap.

20 33. A method according to claim 32, wherein pushing comprises pushing with enough force to tear an element restraining of said flap.

34. A method according to claim 30, wherein said element comprises a mechanically expandable element.

25 35. A method according to claim 30, wherein said element comprises a mechanically expandable element.

36. An implant comprising:

30 a radially expandable tubular sheath; and

 at least one flap welded to said sheath and configured to at least partially and rigidly obstruct a lumen of said sheath.

37. An implant according to claim 36, wherein said tubular sheath comprises a wire mesh sheath.

38. An implant according to claim 36, comprising at least two flaps and comprising at least one restraining element interconnecting said flaps and limiting their movement relative to each other.

39. An implant according to claim 38, wherein said restraining element is adapted to be torn by applying force to one or more flaps, while implanted.

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